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## Patent Abstracts of Japan

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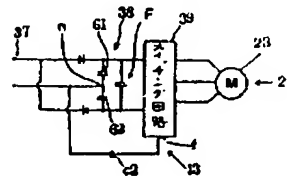
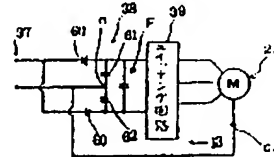
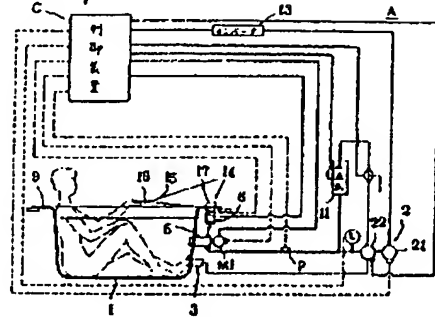
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APPLICATION NUMBER : 01137912

APPLICANT : TOTO LTD;

INVENTOR : MORIYAMA KENJI;

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TITLE : DRIVING CIRCUIT FOR BATHING HOT  
WATER CIRCULATING PUMP OF  
BUBBLE GENERATING BATHTUB



ABSTRACT : PURPOSE: To prevent a bathing person being interposed in a route from getting an electric shock by respectively connecting the motor casing of a circulating pump and the frame of an inverter through a capacitor to the midpoint of a commercial power source.

CONSTITUTION: By connecting a motor casing 23 through a capacitor c1 to the midpoint of a commercial power source 37, a high frequency impedance between the motor casing 23 and the commercial power source 37 is lowered and the most part of a high frequency component, which is transmitted from an inverter 13 to a motor part 21, can be fed back through this route to a midpoint (n) of the inverter 13. By connecting a frame (f) of the inverter 13 through a capacitor c2 to the midpoint of the commercial power source 37, the most part of the high frequency component can be fed back through this route to the midpoint (n) of the commercial power source 37. Accordingly, even when the motor part 21 is not completely grounded, the bathing person can be prevented from getting the electric shock.

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